

Remarks

Claims 7-12 are pending in this application. The Examiner rejected claims 7-12 under 35 U.S.C. § 112, ¶ 1 for failing to enable one with skill in the art to make or use the aspect of the invention concerning the position magnets on the disk. The Examiner rejected claims 7-12 under 35 U.S.C. § 112, ¶ 2. The Examiner also rejected claims 7-11 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,114,788 to Vuillemin et al. in view of U.S. Patent No. 4,806,813 to Sumi et al. The Examiner rejected claim 12 as unpatentable of Vuillemin in view of Sumi and further in view of U.S. Patent No. 4,260,920 to Nakamura. The Examiner also objected to the drawings.

With respect to the drawings, Applicants note that the originally filed drawings were erroneously numbered, *i.e.*, reference numeral 2 was inadvertently added as referencing the stator coils. As a result, virtually none of the reference numerals matched the elements to which they were referred in the specification. A corrected sheet of drawings is enclosed which corrects the error. Applicants believe that once correct reference numerals are used, the drawings can be easily understood with reference to the detailed description provided in the specification.

Applicants' invention is directed to an electrical motor ideal for use in an environment with solvents. Specifically, the invention is directed to a motor having embodiments wherein position sensors comprise electrical conductors (for example, copper wires) that are integral with connecting leads, obviating the need for solder points between sensors (such as the prior art Hall sensors) and the connecting leads. The decay and erosion of the solder points of current electrical motors is a significant disadvantage of the prior art. Applicants submit that none of the

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prior art of record discloses, teaches or suggests the adaptation of the present invention, which allows for more reliable use in a solvent environment.

Specifically, Applicants respectfully submit that claims 7 and 15 are not obvious. Obviousness requires that each and every element of a claim be present in a combination of references, along with a teaching, motivation and suggestion of success in combining them. See MPEP § 2143.01. A modification to a reference that changes that reference's principle of operation is not obvious. See *id.* Furthermore, a modification to a reference that renders the reference unsatisfactory for its intended purpose is not obvious. See *id.* The motivation to combine reference must be "clearly and particularly" taught in the references. *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). Finally, in determining obviousness, the Examiner "cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth the rationale on which it relies." *In re Sang Su Lee*, 277 F.3d 1338 (Fed. Cir. 2002).

Neither Vuillemin nor Sumi disclose the element of a position sensor which comprises an electrical conductor produced integrally with connecting leads. Vuillemin refers only to a sensor without any teaching or suggestion as to what that sensor comprises. Meanwhile, Sumi clearly teaches away from the present invention by disclosing Hall sensors (see Fig. 6). In addition, neither Sumi nor Vuillemin suggest that their motors could be used in an environment with solvents. Indeed, because there is no teaching to use sensors which comprise electrical conductors produced integrally with connecting leads, there is no suggestion of success to adapt

the motors of Vuillemin or Sumi to a solvent environment. The combination of Sumi and Vuillemin fails to teach, motivate or suggest the present invention embodied in claims 7 or 15.

Because claims 7 and 15 are patentable, claims 8-14 and 16-24 are patentable as dependant from patentable base claims. See MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

Applicant respectfully submits that the amendment herein demonstrates Applicant's preference for particular language and, notwithstanding anything to the contrary, are not intended to be amendments related to patentability. Furthermore, Applicant respectfully submits that the amendments herein merely add language of equivalent scope, and that nothing herein is intended to narrow the scope of any of the claims.

The Commissioner is hereby authorized to charge any additional fees (or credit any overpayment) associated with this communication to our Deposit Account No. 13-0019. If a fee is required for an extension of time under 37 C.F.R. §1.136 not accounted for above, such extension is requested and such fee should also be charged to our Deposit Account.

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Respectfully submitted,



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	Group Art Unit:
Kuehnel, et al.)	2834
)	Examiner:
Serial No.: 09/719,594)	Tamai, K.
)	
Filing Date: March 9, 2001)	
)	
For: ELECTRONICALLY)	
CONTROLLED ELECTRIC)	
MOTOR INTENDED FOR USE)	
IN AN ENVIRONMENT WITH)	
SOLVENTS)	

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Assistant Commissioner for Patents
Washington, D.C. 20231

REVISIONS TO CLAIMS 7 AND 10-12

7. (Twice Amended) An electronically controlled electric motor comprising:

a shaft;

at least one rotor bearing permanent magnets for rotation about the shaft;

a stator housing having coils; and

[wherein] motor position sensors [for ascertaining a commutating time are]

arranged in the stator housing,; wherein at least one position sensor [having] comprises an

electrical conductor produced integrally with connecting leads; and

wherein [in which] a current is induced in the electrical conductor by a moving

magnetic field [to generate a signal in the electrical conductor and which is produced integrally

with connecting leads].

10. (Twice Amended) The electric motor as claimed in claim 7, wherein the electrical conductor is a pulse wire arranged [transversely with respect to movement of magnetic poles of the rotor] parallel to the shaft.

11. (Twice Amended) The electric motor as claimed in claim 1, [wherein the rotor has] further comprising position magnets separate from the rotor and arranged [away from its permanent magnets and] for rotation about the shaft opposite the position sensors.

12. (Twice Amended) The electric motor as claimed in claim 1, [wherein the rotor has] further comprising a disk having a second set of permanent magnets [which is], wherein the disk is separate from the rotor and arranged for rotation about the shaft [away from its permanent magnets] and [is] in operative connection with the position sensors [and has independently magnetized regions].